

REMARKS

Applicant respectfully traverses and requests reconsideration.

Applicant wishes to thank the Examiner for the notice that claim 20 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 30, 31, 38, and 39 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 6,118,461 ("Taylor"). Taylor is generally directed to allowing a system master to map the address spaces of a plurality of subsystems. (*See, e.g.*, col. 2, lines 23-26.) Of particular advantage, a display system can be constructed in which multiple display controllers may be used to independently generate the images being displayed on respective regions of a display screen. (*See, e.g.*, col. 2, lines 30-34.) As a previous Office Action admitted, Taylor teaches to first output a sub-portion of a frame using one display control unit and then output another sub-portion of the frame via a different display control unit.

It is alleged, however, that "[a] frame buffer inherently stores an entire frame of information, and therefore each display control unit inherently generates entire frames of information." (Office Action, ¶ 10.) However, Applicant is unable to find any support that frame buffers 105 of Taylor inherently store entire frames of information. Furthermore, Applicant is unaware of any support for this assertion, especially in a multi-graphics device system. Therefore, Applicant respectfully requests that the Examiner indicate where Taylor teaches this.

Not only is it not inherent that each display control unit of Taylor inherently generates entire frames of information, such an assertion is inconsistent with the specification of Taylor. For example, the Examiner cited col. 5, line 65-col. 6, line 1. This cited portion states, "[W]hile

the data in the frame buffer 105 of one selected unit 103 is being updated, the remaining units 103 can continue to raster out data and refresh their corresponding screen regions.” (Emphasis added.) As shown in FIG. 1 of Taylor, each display control unit 103 contains its own frame buffer 105. Furthermore, Taylor does not depict any means for one display control unit 103 to send data to the frame buffer 105 of a different display control unit 103. Considering that each display controller 104 only processes data for a region of a display screen and considering that a display control unit 103 can only send data to its own frame buffer 105, it is not inherent, as alleged, that frame buffer 105 of Taylor “stores an entire frame of information.” As such, it is also not inherent, as alleged, that each display control unit generates entire frames of information. For this reason, the claim is in condition for allowance.

Furthermore, the Office Action also states, “Claim 30 merely recites that each graphics device renders a frame, but does not specify that each frame is an entire display on a screen.” Applicant has amended claim 30 to include language inherent within the claim as originally filed to more clearly claim that each frame is an entire display on a screen.

For these reasons, claim 30 is in condition for allowance. The dependent claims add novel and nonobvious subject matter and are therefore also in condition for allowance.

Claims 1, 18, and 29 stand rejected under 103(a) as being unpatentable over Taylor in view of U.S. Patent No. 5,461,679 (“Normile”). As described in previous correspondence, Normile describes multiple video compression and decompression modules 401-404. These modules, however, do not teach graphic devices, which perform at least graphic calculations (e.g., lighting operations, etc.). Applicant, however, will assume that these modules 401-404 are graphic devices for the sake of argument.

The Office Action suggests that Taylor teaches all of the limitations of claim 1 except for "a second video output port coupled to the first video component output of the second graphics device." The Examiner suggests, however, that Normile teaches this, thereby, in view of Taylor, rendering the claimed subject matter obvious. Applicant respectfully disagrees.

In claim 1, for example, a first graphics device has an input and a first video component output to provide a first video output component signal, and a second graphics device has an input and a first video component output to provide a first video output component signal. A first video output port is coupled to the first video component output of the first graphics device and the first video component output of the second graphics device. Additionally, a second output port is coupled to the first video component output of the second graphics device. Applicant disagrees that computer system bus 425 or video bus 420 is a video component output as claimed, but nonetheless, Normile does not teach a first video component output of the second graphics device coupled to both a first video output port and a second video output port. If a bus is the same as a video output port and modules 401-404 are graphic devices (two assertions with which Applicant respectfully disagrees), at best, Normile teaches a second graphics device having two video outputs (to bus 420 and 425), one of which one could argue is attached to one output port and the other of which one could argue is attached to a second output port. FIG. 5 of Normile illustrates a compression/decompression module, such as modules 401-404. One "output" (as the Examiner suggests) is shown as 412 coupled to dual port memory 504. As described in column 12, lines 56-59, "Then, via block read operations, display controller 426 reads the data available in the dual port memory 504 for each module 401-404 over bus 425 . . ." Thus, for the sake of argument, assuming that control bus 412 and bus 425 are the first video

component output, this first video component output must also be coupled to a second video output device.

The Office Action then suggests that there is an inherent port between frame buffer 430 and display 440. Even if this assumption is accurate, data from compression/decompression modules 401-404 is not deposited via the first video component output. Instead, as shown in FIGS. 4 and 5 of Normile, frame buffer 430 can only receive data from bus 420, i.e., a second video output component. For these reasons, claim 1 is in condition for allowance. Dependent claim 18 adds novel and nonobvious subject matter and is therefore also in condition for allowance.

As to claim 29, Applicant respectfully reasserts the relevant remarks made above as to claims 30 and 1. For example, Applicant notes that claim 29 has been amended to include language inherent in the original claim to more clearly state that “the first graphics device renders an entire frame of video.” (Emphasis added.) Applicant respectfully submits that Taylor does not teach this and the claim is therefore allowable. Furthermore, however, Applicant also submits, for example, that Taylor in view of Normile does not teach or suggest, among other things, a second video output port coupled to the first video component output of the second graphics device. For these reasons, among others, claim 29 is in condition for allowance.

Claims 19, 21, 22, 32-34, 36, and 37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Taylor in view of U.S. Patent No. 5,963,200 (“Deering”). As to claim 19, the Office Action alleges that Taylor teaches “determining a value of the first signal at a first output node (*digital to analog converter palette (display driver) 109 receives digital data from controller 104, and outputs analog data to drive display 110 in response, Col. 5, lines 1-3.*)” Taylor, however, does not teach or suggest any component that is capable of determining a value

of the first signal at a first output node. Instead, the digital to analog converter does exactly what the Examiner cited: “receives digital data from controller 104 and outputs the analog data to drive display 110 in response.” (Col. 5, lines 1-3.) Applicant respectfully requests that if Taylor does teach “determining a value of the first signal at a first output node” as alleged, the Examiner specifically point out the portion of Taylor that teaches this. For this reason alone, the claim is in condition for allowance.

Furthermore, however, it is alleged that Deering describes “that the first graphics device (14, Figure 2) acts as a master to the second graphics device (14) and adjusting the second device until a value of the second signal at the first output node substantially matches the determined first value of the first signal at the first output node.” Deering, however, does not teach adjusting the second device until a value of the second signal at the first output node substantially matches the determined value of the first signal at the first output node. As described in the passage cited by the Office Action, Deering describes that a master emits the FIELD signal, thereby causing the slaves to reset the counters (horizontal and vertical dimensions) which produce the video timing signals such as horizontal synch, vertical synch, and blanking. Thus, for example, the vertical blanking occurs nearly simultaneously on different video displays 25. Not only does Deering not teach adjusting the second device until a value of the second signal substantially matches the determined value of the first signal, the first signal and second signal are not both at the first output node, as claimed in claim 19, for example. None of the signals in Deering share a common output node. In contrast, each signal (e.g., analog data) is received by a display 25. Thus, claim 19 is in condition for allowance. The dependent claims add novel and nonobvious subject matter and are therefore also in condition for allowance.


As to claims 32-34, 36, and 37, Applicant respectfully notes that these claims are dependent on claim 30, which Applicant believes is in condition for allowance as noted above. Additionally, Applicant reasserts the relevant remarks made above as to claim 19. These claims add novel and nonobvious subject matter and are therefore also in condition for allowance.

Claim 35 also stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Taylor in view of Eichenberger. The Office Action relies on Taylor for the same reasons as discussed in relation to claim 30. Applicant therefore respectfully reasserts the relevant remarks made above with respect to claim 30. Applicant further notes that claim 35 is dependent on claim 30. Since Applicant believes claim 30 is in condition for allowance, Applicant respectfully submits that claim 35 is also in condition for allowance.

Applicant respectfully submits that the claims are in condition for allowance and respectfully requests that a timely Notice of Allowance be issued in this case. The Examiner is invited to contact the below listed attorney if the Examiner believes that a telephone conference will advance the prosecution of this application.

Respectfully submitted,

Date: 5/8/07

By: 
Christopher J. Reckamp
Registration No. 34,414

Vedder, Price, Kaufman & Kamholz, P.C.
222 N. LaSalle Street
Chicago, Illinois 60601
PHONE: (312) 609-7599
FAX: (312) 609-5005